

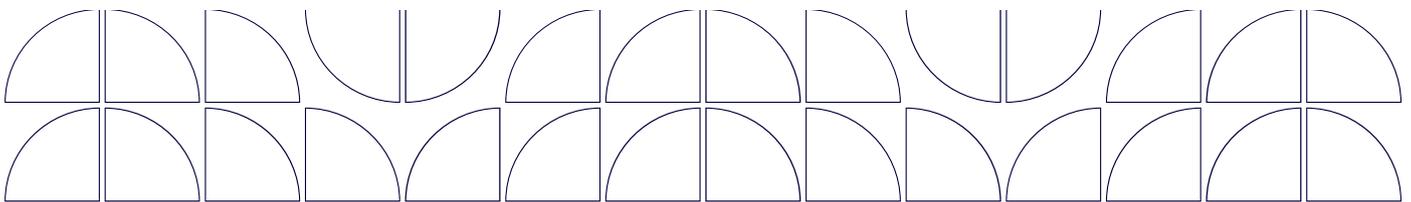
Workforce Planning for Industrial Decarbonisation

22 November 2022 - RSA House, London, UK

Event Summary

Industrial Decarbonisation Research and Innovation Centre
Engineering Construction Industry Training Board

November 2022



Overview

The accelerated roll out of industrial decarbonisation projects in the UK is currently under threat from a lack of workforce capacity, a short lead time to produce the necessary skills/capacity, and a need for central coordination to develop these skills across the whole industrial system.

This event launched the report of comprehensive new research led by Professor Joe Howe and Dr Kirstie Simpson (University of Chester) and funded by IDRIC that focuses on how to deliver the skills and capacity needed for industrial decarbonisation at a national scale. In addition, we also discussed research commissioned by the Energy Institute and conducted by CATCH UK that focusses specifically on the competency frameworks for hydrogen.

This event, part of IDRIC's wider Industrial Decarbonisation Policy Forum programme, has been established to build on and advance the dialogue initiated at the launch event of ECITB's report ('Industrial decarbonisation and the implications for skills') in March 2020. The second part of the afternoon brought together a panel of key stakeholders working in this space to share their insight of what is needed to create the workforce to meet the demands of industrial decarbonisation.

Number of Attendees

60 attendees: attended in person and remotely

Key messages

- Collaboration is key. All levels of training and education need to work together with industry.
- We will run out of skills before we run out of anything else. We need to rapidly accelerate work on training/skill development to ensure jobs are not at risk of offshoring.
- Communicating with young people and educators to highlight the advantages of different career pathways within industry is crucial to demonstrate that working in industry is the solution, not the problem, to climate change.

Research Themes

Hydrogen Skills Gap Study

David Talbot (CATCH UK)

David Talbot, CEO of CATCH UK, presented the outcomes of Phase 1 of the Hydrogen Skills Gap study commissioned by the Energy Institute. This research involves a detailed landscape review and analysis of current hydrogen skills and competency frameworks. The next two phases of this project analyse training requirements (Phase 2) and implementation frameworks (Phase 3). The scope of this project includes skills needs for hydrogen production, transportation, storage and usage. As an industry training provider, CATCH is a key stakeholder in the Humber cluster and offers a distinct perspective to undertake this research.

As commonly reported, there is a huge employment gap in this sector, with a significant number of technicians and engineers needed to meet demand. The report, however, notes that although this gap does require some new skills, predominantly relating to safety and data management, the biggest challenge is building capacity in pre-existing engineering and construction skills.

The report welcomed the likes of the *All Energy Apprenticeships* from OPITO, and stressed the importance of modularity when it comes to education and reskilling. It also highlights the importance of skill transferability, including the evolution of leadership and management skills to allow for systems integration.

During the discussion around this research, David stressed the importance of collaboration between institutions and on the need for all parties to focus not only on new skills, but also on safeguarding current jobs.

The full report will be released in due course. You can access the executive summary [here](#).

Enabling Skills for the Industrial Decarbonisation Supply Chain

Joe Howe (University of Chester)

Ian MacIver (MACE)

The 'Enabling Skills for Industrial Decarbonisation Supply Chain' report quantifies the workforce needed to meet the demands of the cluster projects and offers recommendations to develop this workforce. The research findings were presented by Professor Joe Howe from the University of Chester (and IDRIC's Academic Cluster Lead for the Northwest cluster) and Ian MacIver from MACE.

The report models CAPEX with ONS data to predict what job roles are needed in each of the seven industrial clusters. To achieve the goals set by the Industrial Decarbonisation Challenge, in the region of 350,000 additional jobs will be needed by 2040:

28% - Professional, Higher Education

72% - Technical, Further Education

Although this is a significant challenge, the demand creates plenty of opportunities for training providers and skills accreditors and would also create significant opportunities for export.

One of the key points raised relates to student engagement. Students lack awareness of the availability of high quality, highly paid jobs in the industry sector and there is a perceived stigma/lack of understanding around further education pathways. Often, this is exacerbated by general deprivation in regions where these jobs are in high demand and/or are available. This raises the question around ED&I and how to ensure opportunities reach people and communities that have historically not interacted in this space. It was also agreed that ED&I would need to be a pivotal pillar for the existing skills challenge solution: more than 200,000 jobs are needed in the construction sector alone, which is predominantly a male dominated sector.

Another of the main challenges is competition within sectors, creating a need to raise awareness to build the confidence of companies to offer contracts. Working at cluster level has proven successful in comparison to a project-by-project approach.

You can download the full report [here](#).

Report Responses

Chaired by: [Jenny Young \(ECITB\)](#)

Responses to the ESIDS report were given by:

- [Enrique Cornejo \(BEIS\)](#)
- [Jude Knight \(DfE\)](#)
- [Carl Hickson \(BP\)](#)
- [Anna Markova \(TUC\)](#)

As the report looks at skills as part of the whole system, rather than at sectors in isolation, all responders welcome the clear evidence presented to support the wider training demand needed to achieve industry ambitions. The overriding message from all was pace: we all need to act quickly to ensure projects are not put at risk. The challenge for decarbonisation needs to start with building the skills base from the supply chain. We need to secure these jobs and protect them from offshoring.

DfE is committed to supporting green skills with £3.8bn investment in further education, whilst also reviewing apprenticeship standards, launching T-levels, skills bootcamps and LSIPs (Local Skills Improvement Partnerships) and piloting HE stackable courses. Working with industry is key to ensuring existing programmes support green sectors and understanding the needs and timing of deployment.

During the responses, the need for a cross-sectoral response was emphasised to ensure a just transition, e.g. not just flooding the sector with new entrants but to mobilise lower skilled people into higher skilled roles. To accommodate this, it was noted that funding needs to be more flexible. There also needs to be a strong focus on early-stage STEM.

One key challenge is to make industry jobs as attractive as possible to retain the current workforce. How do we do this? Through ensuring ED&I policies are adhered to, to acknowledge that decarbonisation jobs may be more demanding to similarly paid jobs, to ensure competitive wages, and to ensure opportunities for training and career manoeuvrability.

Roundtable

Chaired by: [Jenny Young \(ECITB\)](#)

Panellists: [Simon Connell](#) (Baker Dearing Educational Trust), [Carl Hickson \(BP\)](#), [Joe Howe](#) (University of Chester), [Jude Knight \(DfE\)](#), [Anna Markova \(TUC\)](#), [David Talbot \(CATCH UK\)](#)

Do we have the right structures in place?

Generally, the consensus was that there are the bodies in place, however, more needs to be done to oversee this work and reduce duplication of effort. Green Jobs Delivery Group is a good starting point but there is also the need to include workers voices and FE representatives. The LSIPs also offer the opportunity to oversee these groups on a local/regional level but too early to tell if this will have significant impact.

Provision loaded towards HE instead of FE. How to ensure enough technical workforce are available?

More signposting needed to direct young people to FE and change perceptions of non-HE career pathways. This must start at an early age. Many interventions already exist but these need to be expanded upon. The perception of working in industry must also be changed as it can be seen as the problem to climate change but needs to be seen as the solution. All have a role to play.

Training the trainers?

There are quality STEM outreach programmes, however, education workers are strained and there needs to be advocacy towards funding the education sector to allow capacity to deliver STEM activities and source valuable career advice. There is some funding available for schools to procure staff and equipment. In terms of vocational training, many larger companies are expanding resources, however it is a perpetual challenge.

Other discussion points

- Modularisation will be a significant mechanism to deliver necessary skills. Upskilling current jobs through the development of internal and external training programmes.
- Building a workforce plan is crucial. Many leaders unaware of the size of the skills gaps.

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Find out more at [idric.org](https://www.idric.org)

